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On Great Lakes Water Quality

1985 Great Lakes Water Quality Meeting

The International Joint Commission will hold its 1985 Great Lakes Water Quality Meeting June 24-27, 1985 on the campus of Queen's University in Kingston, Ontario. Located on the northeast shore of Lake Ontario, it is renowned for its history, freshwater sailing and other recreational facilities.

The theme of the meeting is "Great Lakes Reflections" — Reflections of what has been done, what is being done and what can be done to protect the water quality of our vast resource.

The Great Lakes Water Quality and Science Advisory Board reports will be presented on Tuesday, June 25. These reports will be mailed to participants in advance of the meeting to encourage discussion with the Boards following their presentation.

The concurrent workshops scheduled for Wednesday, June 26 will provide opportunity for public participation. Some topics being planned are: toxics, groundwater, and a coastal symposium. Suggestions for other topics are welcome.

On Thursday June 27, the meeting will focus on a review of the 1978 Great Lakes Water Quality Agreement. The Commission is encouraging participation by individuals and organizations as well as by IJC boards, committees and work groups. There will also be presentations on the Wednesday workshops and other related events.

Other IJC related activities will include field trips, an open house on "CSS LIMNOS" — research vessel, visits to historic sites, an



Grant Hall, Queen's University, Kingston, Ontario

environmental exhibition and the Jacques Cousteau film on the Great Lakes. Participants will have an opportunity to enjoy an evening sailing on the water followed by a barbecue at the Great Lakes Museum.

A conference on International Environmental Law organized by the Queen's University Faculty of Law will be held in conjunction with the IJC Meeting. A Conference of Municipal Government Officials will also be held in Kingston during the same week. Delegates will attend portions of the IJC Meeting and John Gerretson, Mayor of Kingston, will host a joint reception on Monday evening.

Several Kingston-area events focussing on the Great Lakes will be held earlier in June. Great Lakes Celebration Day on June 15 will consist of family oriented activities. The local schools will be involved in an essay contest, the photography club will sponsor a competition and the Kingston Public Library will have a display of books about the Great

Lakes.

To ensure your name is on the mailing list to receive further information on the 1985 Great Lakes Water Quality Meeting, please call Jean Laforge at the Great Lakes Regional Office at (519) 256-7821 — Canada or (313) 226-2170 — United States.

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EVENTS

The twenty-first annual American Water Resources Association Conference & Symposium, "Water Demand-Sharing a Limited Resource", will be held August 11-16, 1985, at the Sheraton Tucson E1 Conquistador Resort.

Papers will discuss, evaluate, and present new and emerging technologies for, and approaches to, the management of water resources in light of the scarcity and limited availability of usable water in sections of the United States and many other parts of the world. The papers may relate to general application or to case studies in specific geographic areas. Conference sessions will address the following topics: Strategic Planning Contributions to Water Resources Problems; Identification, Development, and Management of New Sources of Water; Optimization of Water Allocation; Water Rights Impact on Water Use; Conjunctive Use of Surface and Groundwater, i.e., Agricultural, Domestic, and Industrial, Cost Sharing Policy-Impact on Development; and Use of Water Resources, and Economic Aspects of Water Utilization.



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For details, write to Dr. Yoram Gordon, Greenhorne & O'Mara, Inc., 9001 Edmonston Road, Greenbelt, Maryland 20770, telephone: (301) 982-2846.

From May 26-29, 1985 in Toronto at the Royal York Hotel, the Rawson Academy of Aquatic Science is hosting a national review of Canadian aquatic resources, their quantity, quality and distribution in relation to present and projected demand. For detail or to contribute papers, contact Dr. Henry Regier, Institute for Environmental Studies, University of Toronto, Toronto, Ontario M5S 1A4, (416) 978-7338.

"Water Resources Management and Agricultural Development" is the theme of the 38th Annual Conference of the Canadian Water Resources Association. Five broad areas will be explored at Lethbridge, Alberta from June 26-28, 1985: 1) irrigation water, 2) systems and 3) methods, 4) special topics (modeling environmental impacts, 5) drainage and wetlands management. For a conference program or to submit a paper write Dr. R. Bruce MacLock, c/o Alberta Environment, 9th Floor-Oxbridge Place, 9820-106 Street, Edmonton, Alberta T5K 2J6 or call (403) 427-8985.

June 17-21, 1985 — Second Annual Cornell University Groundwater Course entitled, "Local Groundwater Management: Aquifer Contamination, Protection, and Community Response." For local officials, managers, and consultants, this comprehensive program emphasizes linkages between groundwater protection and land use management and the complex issues facing local communities. Contact Diane Banfield, Programs in Professional Education, Cornell

University, Box 704, B12 Ives Hall, Ithaca, New York, 14853; (617) 256-7259.

The Acid Rain Foundation is coordinating a major scientific conference on "The Effects of Air Pollutants on Forest Ecosystems" in St. Paul, Minnesota, May 8-9, 1985. The purpose of the conference is to present, compare, and contrast recent (1984) scientific findings about symptoms, causes, and effects of air pollutants on high and low elevation forests in Europe and North America. There will be presentations by invited speakers, plus a poster session. There will also be a special evening session for the general public, with an international panel giving an overview of the subject.

For more information and registration material, send a stamped, self-addressed envelope to: The Acid Rain Foundation, Inc., 1630 Blackhawk Hills, St. Paul, Minnesota 55122, Phone: (612) 445-7719.

Marquette University's Nonpoint Pollution Abatement Symposium will be held at the Hyatt Regency Hotel in Milwaukee, Wisconsin, April 23-25, 1985.

The symposium will focus on: planning process for non point pollution control, institutional responsibilities and legislation, and financing the programs. Both technical presentations and panel workshops will be used to suggest technical and institutional solutions to the non point pollution problem.

For more information, contact Marquette University's Division of Continuing Education at (414) 224-7345 or write the Division at 1918 West Wisconsin Avenue, Milwaukee, Wisconsin 53233.

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Perspectives on Nonpoint Source Pollution, A National Conference on clean water through controlling nonpoint sources will be held May 19-22, 1985 in Kansas City, Missouri.

The conference is designed for 1,000 active participants who have serious concerns about nonpoint source pollution — including agriculture, forestry, mining, construction, industry, and other private interests, along with the urban and rural public, environmental groups and representatives of all levels of government.

For more information please contact the North American Lake Management Society at (202) 833-3382.

Symposium On Off-Site cost of Soil Erosion: The Conservation Foundation and the U.S. Soil Conservation Service are sponsoring a symposium on the off-site costs of soil erosion on May 6 and 7, 1985, at the Vista International Hotel in Washington, D.C. The symposium will focus on the economic costs created by soil erosion after sediment and associated contaminants leave the fields. Invited papers will address the extent to which soil erosion may be creating different types of off-site impacts and costs nationwide, as well as summarize case studies of these impacts undertaken in different parts of the country. Registration fee for the Symposium is \$95.00 (U.S.). For further information contact the Conference Manager, The Conservation Foundation, 1717 Massachusetts Avenue, N.W., Washington, D.C., 20036 or telephone (202) 797-4300.

The 28th Conference on Great Lakes Research and the Annual Meeting of the International Association for Great Lakes Research, sponsored by the University of Wisconsin's Center for Great Lakes Studies and the University

of Wisconsin Sea Grant Institute, will be held June 3-5, 1985, at the University of Wisconsin — Milwaukee.

For registration and conference information contact Conference Coordinator, IAGLR-85, Center for Great Lakes Studies, 600 East Greenfield Avenue, Milwaukee, Wisconsin, 53204.

The 1st International Conference On Management Strategies For Phosphorus In The Environment will be held July 1-4, 1985 in Lisbon, Portugal.

At this Conference the latest technological and legislative developments and research activities concerning the control of phosphorus in the aquatic environment will be presented. One of the aims is to discuss different approaches in the development and implementation of realistic phosphorus management strategies. Another aim is to disseminate information and share experiences. Through a combination of keynote addresses, papers and posters the 1985 Conference will deal with the effects of phosphorus on man and the environment. Papers for presentation are solicited under the following 5 themes. 1) Environmental Phosphorus Management; 2) Biological Phosphorus Removal in Wastewater Treatment; 3) Chemical Phosphorus Removal in Wastewater Treatment; 4) Phosphate Sludge Management; 5) Phosphorus in the Water Cycle.

Intending authors should submit an abstract of 200 - 300 words (6 copies) to the Secretariat before March 15th, 1985.

For more information contact: Phosphorus Conference Secretariat: Prof. R. Perry, c/o Public Health & Water, Resources Engineering, Dept. of Civil Engineering, Imperial College, London, ENGLAND, SW7 2BU; or Dr.

N. W. Schmidtke, c/o Tektran International, 159 Frederick Street, Kitchener, Ontario, CANADA, N2H 2M6.

The Canada Centre for Inland Waters (CCIW), one of the world's foremost water research centres, will hold an Open House on April 18-21, 1985.

The federal government centre in Burlington, Ontario, shared by Environment Canada and the Department of Fisheries and Oceans, serves as headquarters for Canada's efforts to combat Great Lakes pollution and as the base for research projects ranging across the country and north to the high Arctic.

Visitors to the four-day Open House will be invited to see where the work is done and to meet many of the 600 scientists and support staff who do it. There will be tours of research ships and laboratories, along with dozens of special exhibits and demonstrations dealing with acid rain, toxic chemicals and other environmental issues.

The buildings and ships will be open to the public from 10 a.m. to 4 p.m. on Thursday, Friday and Saturday, April 18 19 and 20. Closing will be extended until 6 p.m. on Sunday, April 21. The centre is at 867 Lakeshore Road, in the shadow of the Burlington Bay Skyway. Access from the Queen Elizabeth Way is via the West Service Road exits.

For further information, write to: Open House '85, Canada Centre for Inland Waters, P.O. Box 5050, Burlington, Ontario, L7R 4A6. (Government of Canada News Release, February 11, 1985).

Invited speakers from across Canada and the U.S. are participating in a special symposium entitled, "Persistent Toxic Substances and the Health of Aquatic Communities". It is being held

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at the joint meeting of the American Society of Limnology and Oceanography (ALSO) and the Ecological Society of America (ESA), Minneapolis, Minnesota, June 18-20, 1985. Persistent toxic substances are perceived as detrimental to environmental quality but their effects on the health of biota are not well understood. The purpose of the symposium is to explore promising methodologies for potential application to assessing the effects of persistent toxic substances on biota in the Great Lakes. The symposium has been organized by the Health of Aquatic Communities Task Force of the IJC Science Advisory Board. The joint ASLO/ESA meeting will be one of the largest gatherings of aquatic scientists in North America. Contact: Dr. Patrick Brezonik, Department of Civil and Mineral Engineering, University of Minnesota, Minneapolis, Minnesota or telephone (612) 373-2968.

The Federal and Provincial Governments of Canada will sponsor an International Symposium on Acidic Precipitation as Muskoka Conference '85. It will be held at Cleveland House/Paignton House, Lake Rosseau in Muskoka, Ontario, September 15-20, 1985.

The Symposium will be devoted to aspects of the long range transport of airborne pollutants (LRTAP) and associated interactions and responses of the ecosystem. The focus is to be on acidification and the interactions with trace elements that result in ecosystem impairment.

For more information, contact the Symposium Program Committee, Muskoka Conference '85, 112 St. Clair Ave. West, Suite 303, Toronto, Ontario M4V 2Y3, (416) 961-6505.

The Future of Public Consultation

*by Jacques Gerin, Deputy Minister,
Environment Canada*

What is the future public consultation? Amazingly perhaps, the answer lies in two other very fundamental questions. What does the future hold for Canadian society? What changes will the future bring with respect to the role of citizens, the role of government, and the relationship between them?

Our society is undergoing fundamental changes. What lies ahead is likely a new phase of human evolution. We are probably in the throes of a dying 19th century industrial era and in the uncertain early stages of a "post-industrial" era. We do not know the future, nor what it promises. We do know it will not be a simple extension of the past. People everywhere are re-examining traditional values, attitudes, principles and relationships.

The re-examination makes social consensus, already difficult in the pluralistic Canadian context, even more elusive. It also suggests that the immediate future is bound to be uncertain, perhaps even turbulent, as we struggle to forge a new social consensus. So while we must recognize that fragmentation and indeed polarization of views reflect current realities, we can hope and work for a new consensus, one that will reflect better than in the past the realities of our planet: environmental, economic and social.

Such a search calls for a different relationship between citizens and their

governments. The traditional relationship has indeed been changing rapidly. In the past, Canadians looked to governments to provide leadership and to formulate policies and programs in the public interest. There was a good deal of tacit consensus around what constituted the public interest. But when that consensus eroded, so too did confidence in the authority of governments. Today, there are many "publics", each demanding their right to be heard and their claims to be met. They want a say in decisions that affect them. They want in to governmental processes, not just through the ballot box but at those points in time when new policies are being formulated and new programs explored. More than that, they are calling for less government and at the same time for a higher quality of governance — meaning not only responsive government, but the exercise of responsibility by individuals, groups and communities.

We have taken a leadership role among federal departments in responding to demands for more openness in government. Our formal public consultation programs were launched in an effort to bring the views of interested and concerned members of the public to bear on departmental policies and programs. We have done so in the belief that this openness will result in better and more effective environmental policies. We will continue working to improve that consultative process. But that's only one aspect of moving to an environmentally responsible society. We must also take our own works seriously — that responsibility for the natural environment is a shared responsibility, one that delves not only on governments but on all members of society in our public and personal lives.

This points to different forms and

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processes for "public consultation" — indeed it may even point to different terminology. It requires a different focus: not what governments are doing and should be doing, but rather what citizens are doing and what they can do to exercise their environmental responsibility. In this focus, governments must necessarily take a back seat to community leadership and initiative. This does not mean withdrawal or abdication.

Community skills need to be developed and encouraged, the importance of individual and community responsibility continuously explained and driven home, and the appropriate supports for responsible public discussion and action put in place. This is a role for governments — to foster, spark, promote and encourage environmental leadership at every opportunity. And to be responsive.

Spreading the environmental message and fostering the adoption and the practice of environmental values is an essential part of our mission to serve the Canadian public, and it has never been more timely. The many fundamental questions now being raised about the kind of future we want can realistically aspire to provide the opportunity to move forward. One of the important driving forces underlying this re-visioning of the future is the relationship between society and the natural environment, including the interdependencies among different human societies and between mankind and the environmental commons. Many Canadians today have come to appreciate that we humans are part of the natural environment, now apart from it, and that we must abandon the notion of dominion over nature and learn to act as stewards and partners with nature.

The evolution in consciousness is shaping the new social consensus; it

must be translated into practical everyday decisions.

This puts a different cast on what we now call "public consultation". We need to call on our imaginations and creativity to carry this message into the various forums appropriate to the different "publics" who must become actively involved. Take the business community for example. What can we do to help those corporate officials, already convinced that sound environmental management is sound business investment, to take that message to their peers? What can be done to help translate that message into practical corporate decision-making? One way is to start by understanding their language, speaking with them in terms they understand, and trying in that process to help them understand ours. We can thus be promoters of "good" solutions.

We can take a similar approach with leaders of the labour movement with whom our dialogue is spotty and far from adequate. They are concerned with the threat of job displacement by new technologies, and also, very publicly, with issues of environmental health. By recognizing these different concerns, we can engage in a search for solutions. By ignoring the first, we cannot succeed on the second.

And we should not ignore the millions of householders whose daily consumption patterns and lifestyle choices have significant environmental impacts. They need to find themselves in conversation with one another in living rooms and community forums across the country. They could learn from those already trying to practice environmental responsibility each and every day. Sensitive leaders from among environmental groups could become lively community resources in this learning process. From such discussion, we in government could

gain fresh insights into very practical steps that can be taken to enhance household awareness and responsibility. Together, we could explore such practical suggestions as labelling particular products with symbols indicating their environmental impacts over the course of their lifecycle.

To sum up, the times are ripe for moving the message that "the environment is everyone's business" into practical application. We have pioneered in putting in place consultative processes designed around the proposition that public consultation will result in better government policies and programs. As we reaffirm our commitment to that objective, we can move beyond and discover how to focus on the environmental responsibilities of all members of the Canadian community.

The process of change of which we are part will eventually lead to a new consensus based on the realities of the 21st century. This opens new opportunities. We can seek out new forums in which all Canadians can ask themselves: what can we do for the environment of which we are part and which we have borrowed from our children? Where are the impediments that prevent us from practising environmental values and what can be done to remove them? While we in government can promote such discussions, we cannot impose the answers. Instead we need to listen to those thoughtful citizens prepared to take a leadership role in spreading a lively and active sense of responsibility for the health and well-being of the Canadian community and the environment on which we all depend. Then when we act, we shall truly be serving Canadians. (*Environment Update*, Vol. 5, no. 1, March 1984, Thoughts on the Future & the Environment.)

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PEOPLE



Effective February 1, 1985 Pierre-André Bissonnette has been appointed to serve as the Canadian Chairman of the International Joint Commission. Mr. Bissonnette comes to the IJC from the Privy Council Office where he served as a Senior Advisor from 1982-1985. Prior to this appointment Mr. Bissonnette served in many other capacities, some of which are: Deputy Solicitor General of Can.; Deputy Under Secretary of State for External Affairs; Deputy High Commissioner, London; Assistant Under-Secretary of State for External Affairs and Legal Advisor; Secretary, The Permanent Joint Board on Defence, Canada-United States. He was also a foreign services officer with the Department of External Affairs, having served in Brussels, Paris (NATO) Kuala Lumpur, Rangoon and London.

Mr. Bissonnette was born in Montreal in 1924; received a doctorate in Political Science from the University of Geneva in 1953; LL.L. from the University of Montreal in 1948 and a B.A. from Laval University in 1945. He was admitted to the Quebec Bar in 1948 and appointed to the Queen's Council in 1981.

Peter L. Wise is the new director of the U.S. Environmental Protection

Agency's Great Lakes National Program Office in Chicago.

He returns to Chicago from EPA's Washington Headquarters where he has served since 1979. Mr. Wise was chief of the Policy and Evaluation Branch, director of the Water Quality Management Program, and acting director of the Office of Analysis and Evaluation. His responsibilities included examining all technical, policy, economic, and budget aspects of the Clean Water Act; overseeing U.S. EPA's Great Lakes program, and administering more than \$100 million in water quality management grants nationwide.

In Chicago Mr. Wise was local area officer with the Northeastern Illinois Planning Commission (1973-75) and chief of the Bureau of Resource Regulations with the Illinois Department of Transportation (1975-78).

On November 12, 1984 Dr. Richard L. Thomas was appointed to serve for a four year term as Director of the International Joint Commission, Great Lakes Regional Office in Windsor, Ontario. Dr. Thomas comes to IJC from Great Lakes Fisheries Research Branch at Canada Centre for Inland Waters in Burlington, Ontario, where he served as Director since 1976. Dr. Thomas also served as the Canadian Co-Chairman of the IJC's Great Lakes Science Advisory Board, past president of the International Association for Great Lakes Research, founding president of the International Association for Sediment Water Science, and a member of the Acid Rain Policy Committee of the Department of Fisheries and Oceans. He is also an adjunct professor at the University of Waterloo and the University of Geneva, Switzerland.

For the past 16 years Dr. Thomas has worked on sediments of the Great

Lakes including studies directly related to Great Lakes dredging. He is author



and co-author of approximately sixty publications related to Great Lakes sediments.

Dr. Thomas graduated from the University College of Wales, Swansea, with a first degree in Geology in 1959 and a Ph.D. in Geochemistry in 1966. He was involved in petroleum exploration in Libya and diamond exploration in Sierra Leone between 1959 and 1964. In 1967 he worked as a Post Doctoral Fellow of the United Kingdom, Institute of Geological Sciences, and later joined the newly formed Canada Centre for Inland Waters.

Michael J. Donahue has joined the staff of The Center for the Great Lakes as director of its Chicago office and head of research.

Donahue comes to The Center from the Great Lakes Commission where, in his capacity as natural resource specialist, he provided research, coordination and advocacy services for the Commission's eight member states.

He previously served as state liaison planner for the Great Lakes Basin Commission and has worked as an environmental consultant to the Greater Detroit Chamber of

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Commerce. Donahue maintains a research associate appointment at the University of Michigan.

He holds a Bachelor of Science in resource management from the University of Michigan and a Master's degree from its Institute of Public Policy Studies. Donahue is also presently a doctoral candidate in the University of Michigan's Ph.D. program in Urban, Technological and Environmental Planning. His dissertation will address institutional arrangements for Great Lakes management.

Donahue will be responsible for directing The Center's Chicago office at 435 N. Michigan Avenue, Suite 1733, and for developing and managing The Center's binational research program, conducted through its Chicago and Toronto offices. Donna Wise, promoted from executive director to president, will supervise the organization's overall operations.

Mike is also a member of the Science Advisory Board's Social and Economic Considerations Committee. (Center for the Great Lakes News Release).

Clean up for Wabigoon/English River System

In August, the Canada/Ontario Steering Committee on the Wabigoon/English River System released an extensive 400-page technical report and 20-page summary with recommendations for remedial action in the river.

In the 1960's significant levels of

mercury were detected in fish in the Wabigoon/English River system. The principal source of the mercury was traced to the chlor-alkali plant of the pulp and paper mill at Dryden.

Abatement programs undertaken by the mill owner under direction of Ontario's Ministry of the Environment have virtually eliminated mercury discharge. High levels of organic materials also have been reduced substantially.

The report states that less than 50 per cent of the mercury released into the system now remains in the Wabigoon River. The remainder has entered Clay Lake, the first lake in the river system, or has been deposited further down the system.

The Steering Committee recommended that any remedial action take into account evidence that the system is recovering naturally from its historic contamination by mercury discharges. Data collected since 1978 indicate that the average mercury content in fish species such as walleye and pike in Clay Lake has declined by over 50 per cent. It is not yet known when the fish will be safe for unlimited consumption. Scientists expect these improvements to continue.

The committee's report set out four principal recommendations for consideration by the Federal and Provincial governments:

1. Continue Ontario's mercury monitoring and fish consumption guidelines program.
2. Test the effectiveness of the resuspension of clean clay from under mercury-contaminated sediments to accelerate natural burial of contaminated material and block mercury up-take by fish.
3. Dredge and remove mercury-contaminated sediment from the river between Dryden and Clay Lake.
4. Conduct two scientific studies on mercury loss to the atmosphere and on the effectiveness of selenium on reducing mercury bioaccumulation.

A key recommendation is the resuspension of clean clay over contaminated sediments to block the uptake of mercury by fish. Resuspension is a unique procedure arising from five years' intensive research by federal and provincial scientists. A small-scale experiment reduced mercury uptake in fish by as much as 90 per cent. The committee warns, however, that a large scale project may not have the same degree of success.

The report also concludes that although dredging of the river may be feasible, the extent to which it would accelerate the natural improvement of the system is unknown. Furthermore, disturbance and possible resuspension of mercury-contaminated sediment during dredging may cause further problems. The option recommending the resuspension of clean sediment leaves the contaminated sediments undisturbed.

A senior federal/provincial technical committee will be established to evaluate and recommend action on the Steering Committee's report. The evaluation will include proposals for the sharing of costs of future remedial work.

Copies of the report and summary, "Mercury Pollution in the Wabigoon-English River System of Northwestern Ontario and Possible Remedial Measures", are available from Environment Canada offices in Ottawa and Toronto, the Toronto and Thunder Bay offices of the Ministries of the Environment and Natural Resources and the Kenora office of Natural Resources. (MOE release.)

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BRIEFS

A \$400,000 mobile rain exclusion canopy system located at the Ministry of the Environment's Phytotoxicology Laboratory in Brampton opened in August. The system is the first fully automated acid precipitation facility in North America and is part of the Acidic Precipitation in Ontario Study (APIOS). When it rains, the canopies roll into place and substitute carefully measured doses of acid rain for natural rain. The system will help the Ministry of the Environment learn more about how acid rain affects crops in Ontario by measuring the effects of known levels of acid rain.

By using carefully measured applications of pre-determined levels of simulated acid rain, Ministry scientists can determine the impact of each of the various levels of acidity. The mobile rain exclusion canopy system features three large mobile canopies, 64 feet by 30 feet each set on tracks 150 feet long, designed to exclude test crops from natural rainfall. When it rains, the canopies are automatically drawn over the crops which then receive simulated acid rain treatments from nozzles suspended in the canopies. At all other times, the canopies are stored away from the test crops until it rains again. (MOE release).

The Ontario Ministry of the Environment has awarded a \$14,500 grant to a Guelph research company, Culice Incorporated, to study the feasibility and economics of the development, implementation and maintenance of an integrated pest management program on potatoes in Ontario. The study was recommended and will be administered by the Ontario Pesticides Advisory Committee. The results will be

presented at the Committee's annual research symposium.

The University of Wisconsin Sea Grant Institute has received a \$1.9 million grant from the National Sea Grant College Program to continue its Great Lakes and marine research and advisory services activities. Along with matching state and private funds, the one-year federal grant will support some 50 research and advisory services projects at six UW campuses, the Medical College of Wisconsin and Lawrence University.

The 1984-85 UW Sea Grant program includes research on the Great Lakes fisheries, contaminants, aquaculture, seafood preservation, diving medicine, and coastal and ice engineering. Other projects range from studies of recreational boating and Great Lakes water management to the *Earthwatch* public service radio programs. The grant will also make possible continuation of the six-year-old comprehensive study of the Green Bay ecosystem.

The Morton Arboretum at Lisle, Illinois, has received a grant from the National Park Service to study the 116 endangered, threatened, and special-concern plant species identified by the State of Indiana and found within the Lakeshore boundaries. The objectives of the project are to gather quantitative data on the distribution, vitality, and population size for the 48 endangered species, to establish permanent sampling sites for photographic and quantitative monitoring scheme that will be applicable to any plant species on National Park Service lands. (From Lake Michigan Interleague Newsletter.)

Good news for those advocating that outdoor environmental education be part of New York State's school

curriculum. According to New York State Outdoor Education Association President, Gary Christenson, the State Education Department has asked his organization to begin developing general environmental education goals and rationale that can fit anywhere into the state plan.

In Christenson's opinion, "this is a very significant step as it departs from the past practice of only developing separate environmental curriculum packages."

While those separate publications and programs are useful, "priority and emphasis will (now) be on infusion of Environmental Education into all grades and disciplines," said Christenson. (From *The Outdoor Path*, Aug. 1984)

The Governor's office released the final version of the "Michigan Groundwater Protection Initiatives" in September. According to the report developed by the Cabinet Council on Environmental Protection, approximately half of Michigan's residents (4.5 million people) depend on groundwater as their sole source of drinking water.

The document summarizes problems and programs, recommends remedial measures, and provides a comprehensive plan to recognize and guard the state's ground water resources. Its premise is that the state has not done enough to protect groundwater, and prevention is cheaper than cure.

The 39 recommendations fall into five categories: protection of groundwater quality, detection of groundwater contamination, immediate response to groundwater contamination, remedial actions, federal groundwater strategy and resource needs. (See *Michigan Waste Report*, September 24, 1984 for

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complete summary.) The full 31-page document plus appendices can be obtained from the Governor's Press Office, Lansing, Michigan, or telephone (517) 373-7956.

On January 18, 1985 the amendments to Michigan Water Resources Commission Rule 57 took effect. Rule 57 specifically deals with toxic substance standards for surface waters. These amendments incorporate a risk assessment approach to controlling the discharge of toxic substances which will reflect both human health concerns and aquatic ecosystem concerns. Both conservation groups and federal government agencies view this risk assessment approach to controlling toxic substances as a national precedent. Copies of the complete Rule 57 package may be obtained from Michigan DNR, Environmental Services Division, Toxic Evaluation Section, P.O. Box 30028, Lansing, Michigan 48909.

In October Ontario's Ministry of the Environment announced a grant of \$3.4 million to Metropolitan Toronto for sewage and water works projects scheduled for construction in 1984. Metro's capital works program provides for improvements to Metro's Humber Main and Highland Creek sewage treatment plants, to the R.C. Harris water works, and for the extension of several water mains in Metro.

The grant is in addition to more than \$3 million in Ontario Government grants provided in 1983-1984 to assist Metropolitan Toronto in an intensive water quality program to clean up bacterial contamination of the Metro Beach areas. This included a \$650,000 grant for the diversion of the Humber River outfall, shoreline improvements

and a study of the outfall extension for storm and combined sewers along the western beaches. In addition, \$2.4 million was granted for accelerated sewer separation projects to supplement the normal assistance provided by the Ministry of Transportation and Communications for the implementation of Metro Toronto's \$9.2 million program of replacing combined storm and sanitary sewers.

The Center for the Great Lakes has opened an office in Toronto. The Center is a binational, not-for-profit organization which works to promote sound policy decisions on environmental quality and economic development issues in the Great Lakes region.

The opening of the Toronto office demonstrates The Center's firm commitment to a U.S./Canadian partnership approach to pressing regional issues. The office will be instrumental in identifying and incorporating Canadian issues and concerns into The Center's overall program.

Among projects currently being planned by the newly expanded organization are a workshop on the legal issues of Great Lakes water diversion; a binational water quality summit to review and assess implementation of the Canadian/U.S. Great Lakes Water Quality Agreement; a waterfront development conference for Great Lakes cities; and a study of the impacts of additional U.S. government cargo on the Great Lakes shipping industry.

The Donner Canadian Foundation has provided initial assistance for establishing The Center's Toronto office at 3 Church St., Suite 500. The Center will also continue to maintain its Chicago office at 435 N. Michigan Ave., Suite 1733. Donna Wise, formerly

executive director of the organization, has been elevated to president and will oversee operations for both offices. Michael J. Donahue will direct research and head the Chicago office.

National Survival Institute is a non-profit, non-governmental organization active in the area of environmental education. National Survival Institute is preparing an issue of our teachers' journal *Environmental Questions for Educators* which will concentrate on Water as an environmental concern. We would like to include your organization and your resource materials in the Resources List of this journal, which will be distributed to participating high schools across Canada and to interested members of the public in Canada and the U.S.

The Resources List forms an important part of our journal which is designed to stimulate involvement with, and further study of, current environmental issues. We would like to know if we can include your organization as one to be contacted for more information about water. We are interested in any resources you have to offer on the subject, and in any publications you may have produced.

We invite your input on any aspect of the Water issue which you feel should be discussed in the journal. You might send us any recent reports or articles you have prepared or cite those you would suggest. Any material used will be acknowledged. We regret that our funding does not allow us to purchase material for which there would normally be a charge.

For further information please contact Beatrice Olivastrì, Executive Director, National Survival Inst., 53 Queen St., No. 27, Ottawa, Ontario, K1P 5C5 or telephone (613) 232-6634.

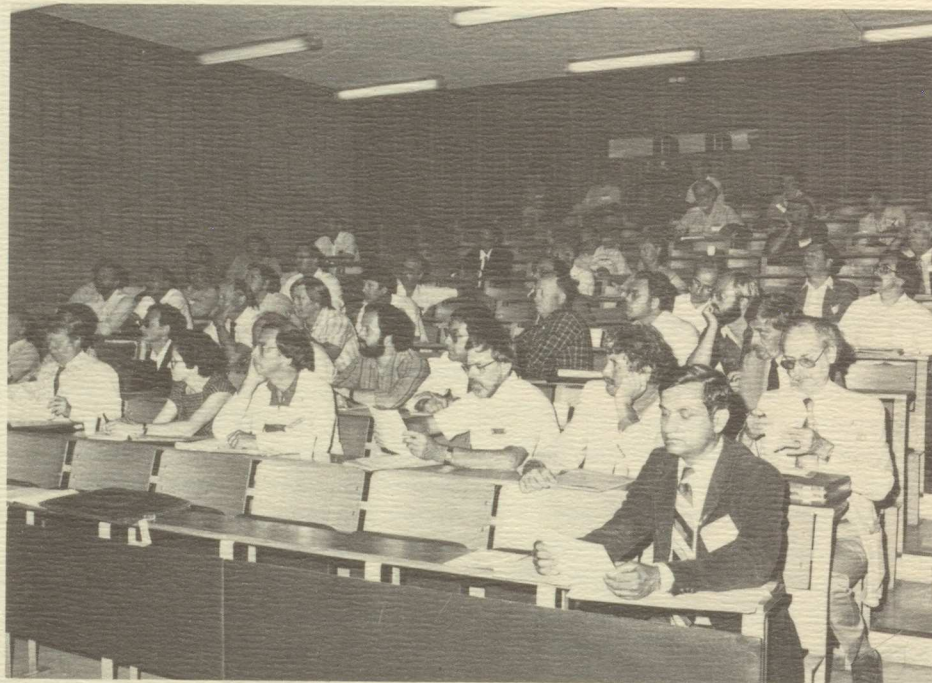
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Workshop on The Ecological Effects of In Situ Sediment Contaminants

A workshop on "The Ecological Effects of *In Situ* Sediment Contaminants" was sponsored at the University of Wales, Aberystwyth, August 19-24 primarily by the International Joint Commission, with support coming from Fisheries and Oceans Canada. The United States National Oceanographic and Atmospheric Administration (NOAA) is providing funds for the publication of workshop proceedings. More than sixty persons registered at the workshop with representatives from Canada, China, Italy, the Netherlands, Norway, Switzerland, United Kingdom, United States and West Germany.

The workshop evolved from the "areas of concern" in the Great Lakes identified by the Great Lakes Water Quality Board as locations with serious in-place contaminated sediment problems. The primary purpose of the workshop was to explore both the social and scientific dimensions of rehabilitating systems contaminated with *in situ* contaminants, as a basis for the development of rehabilitation programs and remedial solutions to specific situations. The workshop's objectives were:

- to develop a "state of the art" assessment of the processes affecting *in situ* sediment bound contaminants and their release to the aquatic system;



Workshop in progress, University of Wales

- to provide an assessment of the transfer, fate, and effects of contaminants on plants and animals in aquatic ecosystems;
- to evaluate the processes by explicit examples from well studied fresh water, estuarine and shallow marine environments;
- to evaluate current assessment techniques and guidelines as the basis for establishing the occurrence of ecological effects;
- to assess the state of knowledge on remedial options available to counteract or eliminate the release of sediment-bound contaminants.

The first plenary session concerned the social context of the problem. The first presentation proposed that the usual logic of developing economic justification for environmental action was unsound and hence ineffective. Subsequent contributions addressed both techniques and other experiences in addressing the social context of

decision-making. The discussion continued throughout the week among persons involved in the various theme sessions.

There were four other themes addressed in plenary session:

- physical, chemical and biological processes involved in transfer, cycling and movement of contaminants between sediment and water;
- impact of contaminated sediments on aquatic organism;
- methods of assessing bioavailability and impact assessments, measurements of system recovery both chemical and biological;
- remedial options

The theme sessions were followed by two plenary sessions on case studies. The specific case studies included mercury contamination of the English-Wabigoon Rivers in Canada; heavy metals in Hamburg Harbour in Germany; pollution by

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bi-monthly by the Institute for Great Lakes Research at Bowling Green State University. The Institute according to *Chips* editor David Glick, is the only archives in the world exclusively dedicated to preserving and studying the written and graphic materials pertaining to the commerce of the Great Lakes. Its collections include hundreds of thousands of items including books, photographs, microfilm, documents and periodicals. The Institute is open to researchers five days per week. The Institute welcomes information about — as well as donations of — materials pertaining to the subject area. The institute is a non-profit organization and contributions are tax deductible.

Subscription information may be obtained from: *Lake Log Chips*, Jerome Library, Bowling Green State University, Bowling Green, Ohio 43403.

Training for Environmental Groups presents the findings of the most comprehensive survey of the training needs of environmental groups ever undertaken. Prepared in 1984 by Conservation Foundation Staff, with support from the Richard King Mellon Foundation, the report examines in-depth the need for and resources available to environmental groups to develop skills to meet today's challenges in raising money and recruiting members, managing an organization, communicating with the press, and analyzing policy issues. It is based on statistical analyses of 225 questionnaires completed by environmental organizations; an extensive literature search; interviews with executives in major environmental groups and providers of training; and a meeting of the heads of university environmental studies programs.

This book may be ordered from The Conservation Foundation, 1717

Massachusetts Avenue, N.W., Washington, D.C. 20036, (202) 797-4300. \$11.95 U.S. \$2 per order for shipping and handling. Please inquire about bulk rate discounts.

The Center for the Great Lakes recently published, *The Lake Effect: Impact of the Great Lakes on the Region's Economy*. It was prepared for the Council of Great Lakes Governors and presented to the governors at their meeting last August in Minocqua, Wisconsin. The report investigates only one aspect of the region's economy — its water resources — but it is an aspect that has often been taken for granted.

As the report shows, a number of lake-based industries, ranging from shipping to tourism and recreation, already make major (although often undervalued) contributions to the region's economy. The lakes also have a potentially strong appeal to industries for the reliability of water supply which they provide and for their strong effect on the region's quality of life. Such appeals will reach their full economic potential, however, only with aggressive regional promotion. The lakes' economic value can be maintained and enhanced when the region's leaders make strong and lasting joint commitments to the protection of Great Lakes water quality. For copies write to the Center at 435 North Michigan Avenue, Suite 1733, Chicago, Illinois 60611; (312) 645-0901.

Love Canal: Science, Politics and People, a book by Adeline Gordon Levine, Professor of Sociology at the State University of New York at Buffalo, is available from Lexington Books, D.C. Heath and Company, 125 Spring Street, Lexington, Massachusetts 02173. The book is based on Dr.

Levine's three years of field research at Love Canal.

The National Oceanic and Atmospheric Administration (NOAA) has published new editions of its six nautical charts on the Great Lakes and adjacent waterways. Cost information and charts are available from NOAA, National Ocean Service Distribution Branch, Riverdale, Maryland 20737.

Ground Water: A Non-Technical Guide, by James Wilson is designed to close the gap between the scientific and popular views of groundwater. In addition to correcting many of the fallacies about groundwater, its 105 pages provide a detailed look at the way in which the nation's geological, geographical and climatological diversity affects the quantity and quality of groundwater.

Natural factors which influence groundwater, such as natural leaching, river infiltration, rainfall, soils, and local geology, are explained, as well as human impacts. The effects of irrigation, fertilizers, pesticides, feedlots, and other agricultural activities are examined along with industrial activities and the impacts from human settlements (septic systems, landfills, municipal sewerage systems, underground pipelines, water wells, and highway deicing salts).

The booklet is available from the Academy of Natural Sciences of Philadelphia, 19th and Parkway, Philadelphia, Pennsylvania 19103. Cost: \$5.00. (From *Water Impacts*, August 1984.)

The 1983 report of the Saint Lawrence Seaway Development Corporation is now available from the Corporation Policy headquarters, Rm 5424, 400 Seventh St., S.W.,

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Washington, D.C. 20590,
(202) 426-3574.

The Clean Water Action Project (1207 Fulton Building, 107 Sixth Street, Pittsburgh, Pennsylvania 15222, (412) 765-3053 may have literature of interest to you. The group is involved in national and state water issues and laws, and has particular interest in toxic substances.

Acid Rain the Politics of Downwind, the report from the Munich Multilateral Conference on the Environment, June 24-27, 1984 has been produced in tabloid form for Environment Canada by the National Survival Institute. Free copies are available from: Ned Lynch, Director of National Affairs Directorate, Environment Canada, Ottawa, Ontario K1A 0H3.

The August 1984 issue of the *Journal of the Water Pollution Control Federation* has a six-page feature article, "What a decade can do". It is the executive summary of the report "America's Clean Water: the States' Evaluation of Process 1972-1982", produced by the Association of State and Interstate Water Pollution Control Administrators.

A booklet describing the potential for landscaping and gardening near lakes and ponds has been published by Dow Gardens of Midland, Michigan. *The Waterside Landscape* explains the fundamentals of developing a beautiful waterfront while maintaining the integrity of the water quality.

The booklet discusses the process of nutrient loading to inland lakes, the dynamics of the land-water interface, and the advantages of a well-designed landscaping plan to intercept nutrient flows and input of eroded soils.

The Waterside Landscape is part of a series of Dow Garden Notes. For

more information contact: The Dow Gardens, 1018 West Main Street, Midland, Michigan 48640. (517) 631-2677. (From *Water Impacts*, August 1984.)

Ice Fishing, a 20-page illustrated booklet published by the University of Wisconsin Sea Grant Institute is designed for the beginning ice angler. *Ice Fishing* includes a summary of the sport's regulations, gives advice on gear and clothing ("dress like you're going to the late-season Packer football game") and offers tips on catching perch, bluegill, pike and walleye. It even suggests what to do if your car starts to go through the ice.

For a copy of *Ice Fishing*, send your name, address and 50 cents to UW Sea Grant Communications, 1800 University Avenue, Madison, Wisconsin 53705.

Great Lakes Charter

On February 11, 1985 Michigan's Governor James Blanchard joined Chief Executives from Minnesota, Wisconsin, Illinois, Ohio and New York in signing the Great Lakes Charter, an unprecedented agreement along all 10 Great Lakes states and provinces to coordinate Great Lakes actions. Governors from Indiana and Pennsylvania as well as Premiers from Ontario and Quebec will sign the Charter in subsequent ceremonies.

Fear the Great Lakes water might be sifed off to the sun belt or elsewhere, combined with data that management of uses within the Great Lakes Basin is needed to protect the Lakes, spearheaded the development of the Charter.

The Charter sets up a process by which the Great Lakes states and provinces will cooperatively gather data that would be used in a court suit to demonstrate that a large diversion of water out of the basin would harm the lakes and current uses of the resource. The Charter promotes regional unity regarding out of basin diversions by calling upon Great Lakes governors and premiers to consult with and notify one another before allowing major diversions of water from the Great Lakes.

The Charter also provides the first step toward regional management for the Great Lakes. In order to guide future uses of Great Lakes water, the signatory states and provinces commit to the development of a cooperative water resources management program for the Great Lakes Basin. The program is to consist of an inventory of the Basins' surface and groundwater resources, projections of future demands on the water supply, the development of cooperative policies to minimize consumption uses of basin water, and to coordinate management of the Great Lakes.

The Charter will provide an opportunity for Great Lakes States and provinces to share data, to perceive common interests that exist, and to plan for regional water needs.

The East Michigan Environmental Action Council was joined by 11 other major environmental organizations in Michigan in supporting the Charter.

Elizabeth Harris, Staff Attorney, East Michigan Environmental Action Council, 21120 W 14 Mile Rd., Birmingham, Michigan 48010, (313) 258-5188.

LETTER TO READERS

Dear Readers,
In the fall of 1974 the first *Focus* was printed. It was not very attractive —

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and it went to less than 4,000 people.

The goals for the publications have remained the same, though the appearance has changed:

1. increase awareness of activities in or relevant to the Great Lakes Basin Ecosystem;
2. inform people in the Great Lakes Basin and others of the Great Lakes Water Quality Agreement, commitments made by Canada and the United States, and the roles of the jurisdictions, IJC and its advisors in implementing that Agreement;
3. inform readers of Great Lakes programs, problems and issues;
4. by increasing understanding of those problems, build support for their solution;
5. provide an international forum through publishing signed articles;
6. provide balanced reporting of scientific material and public issues.

As the proposer and only editor to date, I am pleased that *Focus* has spruced up its look and expanded its audience. I hope you as its readers believe the magazine has achieved its goals.

In November, 84 I left the IJC's Windsor Regional Office to join the Chesapeake Bay Program of the United States Environmental Protection Agency. When you read this letter, your Editor of nine years will be at a different desk in Annapolis, Maryland.

Thank you for your support and interest in the past, I wish you success in your Great Lakes interests and efforts.

Sincerely,
Patricia Bonner

P.S. For those of you who would like information about the Chesapeake, write to me at USEPA Regional Laboratory, CBP, 839 Bestgate Rd., Annapolis, MD 21401.

Gaining Perspective on Environmental Issues: A Fresh Look at Familiar Problems

A Personal Account by Gail Stewart

The Environmental Challenge

I think the environmental challenge is recognized by all of us but it has been hard to know how to respond effectively. The incidence of environmental problems is widespread and some are of long standing, the risks are unknown but potentially very high, and action on specific issues is often in conflict with economic practice if not economic imperatives.

The situation I found, as I became interested in environmental issues and was invited into projects where people were addressing them, was almost invariably one of some agitation. Someone, usually a natural scientist, or occasionally a native person, was obviously concerned, and alleging that something was deeply wrong with the way we were thinking about environment. Others, including often other natural scientists or social scientists, were trying to respond but the responses were obviously not satisfactory and no dialogue resulted which was meaningful to both parties. It was clear that we had here a case of differing perceptions; that were apparently difficult to communicate, but I was unable to pinpoint the source of the difficulty or provide a

bridging perception.

As I listened to people discussing the problems that they saw (and the work I was doing in the community and for Environment Canada provided an extraordinary occasion for talking with many people on the question of the relation between environment and economics) I was struck by the different meanings which people gave to the term environment. To some it was an all-encompassing reality, to others it was the great outdoors, and still others would distinguish natural systems from man-made environments. Others saw it in human value terms, as resources or amenities or unwanted goods such as pollution. And all of us referred to it differently on different occasions. Further, it was the subject of advocacy, intervention, regulation, moralizing, threat, management, charity and nurture in a bewildering array of policies.

Eventually I was able to make a distinction helpful to me (a distinction originally developed for use in other fields), and began to use it. Working as a member of the community with Environment Canada, I was able to demonstrate how the Department, by its manner of thinking at the corporate level if not in every program, had been taking one approach to the environment when it might have been taking another that would have been much more powerful and allowed it to pursue its mandate more effectively. In other projects too, I found that I could see more clearly how progress might be made. It became apparent that much of what we were doing with respect to environmental action was dealing with symptoms, and dealing in increasingly risky ways. It appeared to me faster, more effective, and more pleasant progress on environmental issues might be made if we were to address quite directly the core of the underlying problem, which was a

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widespread intellectual error in the conceptualization of the environment-society relationship. The analogy that immediately came to mind was the field of health care, where fostering personal health and fitness may be faster, safer and more effective in the long run than continuing to fight sickness without attending in a prior way to health.

The Finding

The finding itself concerns a distinction in the point of departure that we use in the logical construction of our approach to environment, and it may be stated succinctly. For purposes of government, economics and public affairs generally, and in our daily lives, we have been approaching environment as an element in the context of human affairs. However, each of us if asked would probably say that in truth human affairs are an element in the context of the environment, and in this we would have the support of the natural sciences. From this perspective we must then be seen as making a fundamental error when we fail to take a priori account of the environmental context of our personal and social context.

The constructional logic itself is profoundly simple. Suppose, for the purposes of example, we take economic activity as the sort of human affairs with which we are concerned. Let economic activity be x , and the environment by y . Now consider whether, for practical purposes, y should in the first instance be considered a component of x or x be considered initially as component of y .

Most of us, it appears, hold in our minds and use both models. In one approach environment takes its place, along with other current issues, as presenting a set of problems we must

address and act upon. In the other approach, familiar to geography students and in television documentaries on the earth and its history and available to us when we look at the heavens and then back at ourselves, we take our place, whatever else may characterize us, as elements within an encompassing environment. Both personal and public policy-making would be improved by the cross-substitution of x for y . This suggests that consciousness-raising and the practising of new perceptions would be a much preferable thrust for environmental policy than the extension of regulation in a context where the error remains in place. The former course leads towards the nurture of the environment, the latter towards the highly risky activity of global environmental management.

Each perspective is familiar as a starting point for thinking about environment. A sequence of decision-making that begins, however, by seeing environment as component of the economy, and for convenience deals with environment under the separate categories of resource issues, amenity and conservation issues, and pollution issues, (which is the typical way that environment is currently dealt with in economic and government and household decision-making processes in our society), actually creates risk: the risk that we will pursue management rather than nurture — that we will fail to see the forests for the forestry. (I have argued in another context, for example, that the creation of the new federal department of forestry is probably a good idea, provided that everybody understands that this does not relieve Environment Canada of its supervening responsibility for forests.)

Clearly, an approach which places environment as content rather than context for the economy is inferior in

terms of both science and popular understanding to one which begins by acknowledging the ubiquitous and encompassing character of environment. An approach which addresses first the condition of our common estate and ourselves as part of it before turning to specific economic issues involving aspects of the environment seems clearly preferable. To proceed otherwise would now not only be identifiably irrational but would sustain and deepen present risk and invite ever-greater risk-taking.

The argument has immediate implications for the sequence of agenda items at meetings, for the directions of research, for the further development of public policy and corporate and government planning, for household operation, for environmental education, and for almost every other aspect of our affairs. It appears that we have known about our situation as active participants in the biosphere for many years but have not imported this knowledge into the logic of our public and private decision-making processes in consequence of the point of departure we have used for our contextual logic. With the appropriate first step in the contextual logic missing from our mental and symbolic models of the world; our environment has tended to remain invisible in our day-to-day decision-making and we keep forgetting where we are, at home in the thin skin of a spinning planet.

The communications problem between our agitated natural scientist (or native person) and the rest of us has persisted because, while we have both been talking about x and y and using the same words, we have not stated from the same implicit contextual relationship between x and y . It is a familiar problem in

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inter-cultural communications, now applied to environment. A cross-substitution of contexts (for example, economics and environment) is the intellectual work that now calls us, with its associated process of language generation. (The activity would probably benefit from being given an appropriate name.)

Further, it seems clear that for our own safety if nothing else we must develop a global metaculture that, for initial puposes at least, sees x in the context of y. We need to practice talking about and seeing ourselves in environmental perspective. That will serve both the environment and possibly even a product of it.

The rare individuals in our society who against all odds have retained or developed that perspective may be able to help. For the most part, however, we are probably on our own in discerning its practical implications for our lives and customs. I personally think that informal consciousness-raising groups would be a good idea. The perspective, even when fleetingly grasped, is quite extraordinarily enlivening and plump with common sense or intuitive knowing. It immediately opens such "insurmountable opportunities" as could set off a new age at least as exciting as was the age of exploration when the world was discovered to be round rather than flat.

The challenge is intellectual and the enemy some of our present habits of thought. It is the kind of problem where remarkable progress can be made once it commands attention. I would leave you with the thought that it is an error in our contextual logic — an error in our manner of thinking about environment which is in turn having reflexive consequences — that is at the core of our environmental problems. By the same token, I believe that it is not so much moral

exhortation and advocacy and regulation as it is intellectual work and new language development and information gathering from a new perspective that are now the priorities with respect to environment. What is needed is a new way of seeing our situation, based on a cross-substitution in our contextual reasoning.

Excerpts from notes for a talk delivered at a meeting in Ottawa September 25, 1984.

LAW AND THE COURTS

Ontario strongly opposed plans developed by Occidental Chemical Corporation for controlling pollution from a chemical dumpsite at Niagara Falls, New York. At issue is the method by which leakage to the Niagara River is to be controlled from the 14-acre Hyde Park Dump owned by Occidental Chemical Corporation. Between 1955 and 1974 an estimated 80,000 tons of chemical waste was deposited at the site. The Ontario delegation, headed by Paul Odom of the Environment Ministry's Niagara River Improvement Team, presented a technical report which challenges current remedial plans and urges further hydrogeological investigation.

Occidental devised a remedial strategy for the property after the company was sued by U.S. Federal and New York State authorities. The strategy is based on a series of steps to confine the chemical within the property boundaries.

Ontario's position is that the proposed measures are inadequate to deal with the concerns of Canadian citizens; the measures do not eliminate the risk that chemicals will continue to leak from the site into the Niagara River. (MOE release).

After three years of hearings, the Federal Food and Drug Administration (FDA) has reduced standards for PCBs in fish and shellfish meant for human consumption from five to two parts per million (ppm). According to terms of the ruling, "the two ppm tolerance level strikes the proper balance between protecting public health and loss of food." The two ppm rule went into effect August 20, 1984.

FDA estimated that the ruling could result in an annual loss of \$13 million to commercial fishermen. The National Fisheries Institute, a Washington-based lobby group and leading opponent of the new standard, claims that this estimate is conservative. (*Environment*, August 1984).

New York State has enacted the nation's first acid rain control act. State Senator John Dunne was the author and chief sponsor of the Acid Deposition Reduction Act. The law provides for the long term reduction and control of acid deposition from New York State sources. It requires the Department of Environmental Conservation (DEC) to publish a list of areas within the state which are sensitive to acid deposition, and an inventory of all sources of sulfur emissions, by January 1, 1985.

In the absence of a Federal program the DEC must also develop by 1985 an interim sulfur deposition control target to take effect by 1988. By 1987 the DEC must establish rules and regulations for the control of emissions of nitrogen oxides for new sources. (From *Upstate Environment*, October-November 1984.)

Ontario is supporting New York State's position that the public has a right to know about plans to clean up the

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Hyde Park chemical dump in the border city of Niagara Falls, New York.

New York State is contesting a U.S. government application before a district court in Buffalo that would keep the negotiations confidential. The order being sought by the U.S. federal government would prohibit the public release of information on any new proposals put forward to clean up the site, or any evaluation of the proposals without the approval of the court.

Science Advisory Board Meets in Niagara Region

On September 24, 25 and 26 the Great Lakes Science Advisory Board met in Niagara-on-the-Lake, Ontario. The focus of the meeting was the hazardous waste problems of the Niagara Region.

The Board organized its meeting so that its administrative activities preceded an afternoon tour of several key sites in Niagara Falls, New York. The Ecumenical Task Force (ETF), and Operation Clean Niagara, working with the Love Canal office of New York's Department of Environmental Conservation, the New York State Power Authority, S.C.A. Chemical Services, Incorporated, and C.E.C.O.S. arranged a tour of waste sites in the area. The IJC's science advisors had the opportunity to view Love Canal, the 102nd Street waste site, Hyde Park, and a recent leaching point along the Niagara River gorge. They also drove through the Niagara Falls area and were given a tour of the S.C.A. waste treatment and landfill site.

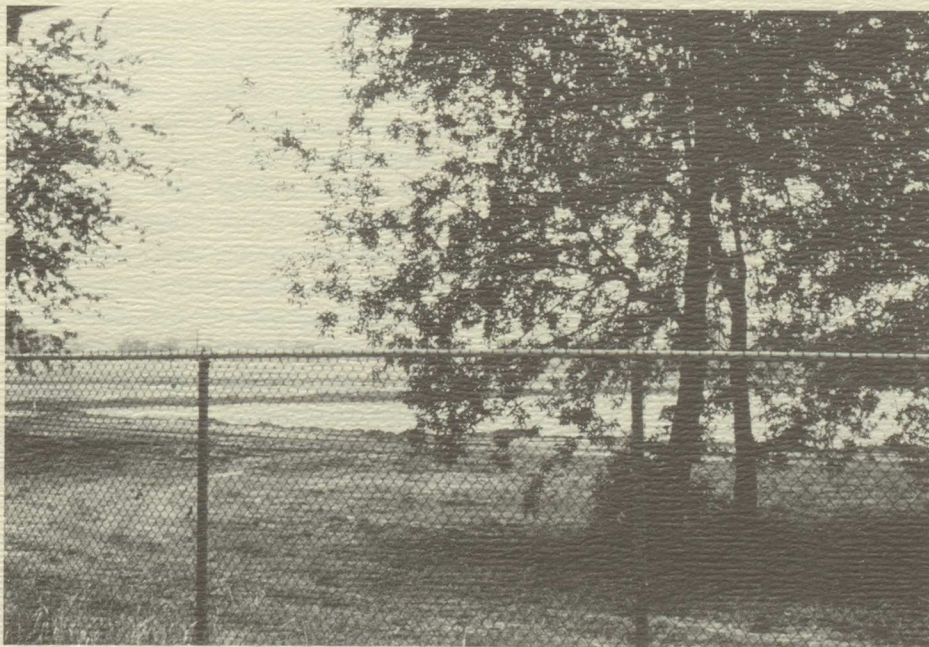
On the same evening Ms. Barbara Morrison, an environmental lawyer who has been involved in many of the court cases involving Niagara Region citizens, was the dinner speaker. Ms. Morrison spoke of the past problems of distrust, poor communication and coordination, and inadequacies in regulatory processes. Recently, she said, she has seen a change for the better with greater cooperation and information sharing among government, citizens and industry.

Ms. Morrison told those attending that in her experience, "Citizens do not take on the expense of litigation unless there is no other avenue open." In discussing citizens' views and their roles in hazardous waste issues she said, "Citizens are aware that there is no immediate solution, but they demand that efforts be made as soon as possible in ways that do not exclude citizens and experts" (outside government). They "do not expect perfect decisions, but they do expect basic respect and a vehicle to have their questions answered by the public agencies responsible for protecting

public health and restoring the environment."

The following day the Board heard and viewed the following presentations.

1. Dr. Barbara Metzger, Director, Surveillance and Analysis Division, USEPA Region II, spoke on "Data Quality Assurance." She stressed the importance of compatible, comparable data collection, analysis techniques and management. She spoke of the need for careful procedures and planning, data collection, analysis and verification to meet the objectives of the designed monitoring and stated uses of to-be-collected data. She hypothesized how data quality assurance could have improved the Niagara River Program.
2. Dr. Adeline G. Levine, Professor of Sociology, State University of New York at Buffalo presented her 35-minute slide/tape show "Love Canal: The Issues and Controversies." (See Things to See column.)
3. Dr. Robert H. Huffaker, Associate Director of the New York State



Land fill with erosion prevention border (at SCA). (Photos by Marlene Evans)



Boarded-up home in Love Canal.

Department of Health's Office of Public Health, discussed the history of the "Love Canal Situation", the problems of communicating non-specific epidemiological findings to people who want to know if and how they are being affected by a perceived problem. He spoke of the involvement of his agency in current health studies of 6,000 persons who (ever) lived in the area, checking birth weights, gestation periods and birth defects — all documentable figures.

4. Dr. Rod Allan, Chief of the Environmental Contaminants Division of the Department of the Environment at the National Water Research Institute in Burlington, Ontario, spoke about the "Role of particulate matter in the fate of contaminants in the Niagara River-Lake Ontario pollution." He discussed the transport, the eventual burial, physical and biological recycling within the bioaccumulation of contaminations throughout the River-Lake ecosystem.

5. Professor Lester Milbrath of SUNY-Buffalo reported his "Survey Study of Beliefs and Values that People Living on Each Side of the Niagara Frontier hold about the Great

Lakes." He concluded that people strongly support protection and clean up, will pay more in taxes and prices to get on with the job, support officials who press for environmental goals, and believe the Lakes important to their future welfare and quality of life.

During the afternoon, the Board heard from Violet Iadicicco of Niagara Falls, Ray Durham an environmental consultant from St. Catharines, James Pax, Jr. of Grand Island, New York, Joanne Hale, a former Love Canal resident, Lester Milbrath, Gretchen de Boer representing the City of Niagara Falls, Ontario, Richard Levy of Buffalo, and Margherita Howe of Niagara-on-the-Lake.

Violet Iadicicco spoke as the owner of both business and rental property near (50 yds) the 102nd Street dump and sandwiched outside the bought-out homes of Love Canal. She has been advised to continue renting at least until the "habitability report" of the State is released. She does so only to adults who sign waivers. She lived in Love Canal with her five small children.

Mr. Ray Durham of the Niagara Ecosystem Task Force (NETF) in St. Catharines said that his group's concerns revolve around waste management. The group is the outgrowth of a Great Lakes Decisions course held at Brock University. NETF opposes new landfills and is focused on those proposed by the Ontario Waste Management Corporation. The group's principles are to work for "fixing" wastes so they do not migrate into groundwater, and for a master plan for waste management in Ontario.

Jim Pax asked a question for the fisherman of the Niagara River pertaining to the recent breakthrough of leaching chemicals from the gorge wall: "What kinds of effects would



Breakthrough of leachate at Niagara Gorge.

breathing those chemicals have in the long run?" He explained that the smell was very strong and many fishermen went by the spot to reach the River. Mr. Pax said he fished for the sport of it and did not eat the fish. He also asked if the Board knew why the Hyde Park site was not a Superfund site.

Joanne Hale, a former Love Canal resident, spoke poetically about the majesty of the Niagara River and the recent impact of man on it. She drew verbal images of the water creatures and people as "victims". She asked that as potential victims the Board members formulate their recommendations on research, programs and legislation.

Professor Milbrath summarized his survey of over 800 residents of the Region (see above).

Gretchen de Boer spoke of the City of Niagara Falls' concern about the waste across the River and about the waste management sites proposed in their city by Ontario Waste Management Corporation. She said that many people in her city fear the influx of additional waste. The city produces only 1% of Ontario's waste and would not receive the employment

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benefits of production — only potentially the impacts on the agricultural lands and their products as well as their tourism industry and personal health, should the proposed technical solutions for waste management fail. Already stress is having its effects on the city residents, she said. Anxiety, lack of information and access to the decision process, and knowledge of past errors cause that stress. Ms. de Boer listed numerous suggestions from citizens concerning reduction of the hazardous wastes generated and if once generated, proper management. She closed expressing the need to generate and share creditable data and through information build trust.

Richard Levy spoke for "both sides of his family on both sides of the border," of his concerns regarding toxic chemicals in the Region. He appealed to members of the Board, representatives of citizen organizations, government, industry and individuals to get together and build mutual solutions to the waste problem of not only the Region, but the globe.

Margherita Howe of Operation Clean Niagara (OCN) in Niagara-on-the-Lake, Ontario spoke of the Pollution Probe, Ecumenical Task Force and OCN involvement in bringing public attention to the Region's waste problem. Though aware of the Board's limited mandate, she appealed to the Board members to consider all they heard and saw, and make the strongest possible recommendations to IJC.

On the final morning of the meeting, the Board completed its administrative agenda and spoke of future plans. In 1985 the Board wishes to repeat the Niagara process, possibly in the Grand Calumet River area.

The Great Lakes Initiative Workshop

By: Bonnie Anderson

"We feel the lakes and land and winds are part of us, interacting with our our life here. We know the lakes are one of the largest fresh water supplies on the globe. We see the forces of life on the globe interacting for water and the lakes as a resource. We sense these forces interacting with those on the planet and universe. Indeed, it is a struggle itself to sense our connection and dependence on the lakes in the midst of our everyday lives. But we know the lakes sustain us, and we believe we can continue to make those changes and refinements in ways that respect the spirit and fabric of the whole." James Olson.

A recent event sponsored jointly by the Great Lakes Institute, University of Windsor, and Connections, Inc., a Michigan-based public interest group, brought together citizens of the Detroit/Windsor area to combine science, art, celebration and information to focus on land, water, culture, economics and political parameters of the Great Lakes region. By combining the talents of local citizens in the areas of science and art, the Great Lakes Initiative Workshop takes a unique approach toward creating an understanding among workshop participants of their connections to the Great Lakes. The Workshop is designed to broaden the conservation-education support base for the Great Lakes ecosystem through direct involvement of local

citizens in targeted areas within the Great Lakes Basin.

The Great Lakes Initiative Workshop contained special discussion groups that included topics such as "The Land and Water Link" led by Philip Hale, General Manager of the Essex Region Conservation Authority; "Toxic Substances and the Lakes" led by John Gannon of the Great Lakes Regional Office of the International Joint Commission; "Michigan's Great Lakes Policy" led by David Dempsey, Environmental Policy Analyst for Governor James Blanchard; "Poetic Expressions of the Great Lakes" by Dr. Peter Stevens, Professor of English at the University of Windsor; and "Divisions of Great Lakes Water and Issues of Quantity" led by Dr. Marie Sanderson of The Great Lakes Institute and Elizabeth Harris, of the East Michigan Environmental Action Council. Keynote speaker, Lee Botts of the Environmental Policy Program, Northwestern University, presented background information to the workshop participants using a set of overlay maps designed to demonstrate conflicting uses of the Great Lakes Basin. A special publication for the workshop entitled, "A Citizen's Guidebook to the Great Lakes Ecosystem" was given to all participants.

The Great Lakes Initiative Workshop is a special project of Connections, Inc. funded by the Chicago-based Joyce Foundation. The Windsor /Detroit area workshop is the second Great Lakes Initiative Workshop to be held in the Great Lakes Basin. The 1983 workshop, held in Traverse City, Michigan, ultimately resulted in the formation of the Traverse City Area Great Lakes Citizen Education Network. Follow-up plans for the Windsor/Detroit area workshop are being developed.

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Author Biography

Bonnie Anderson serves as a consultant to many public interest groups throughout the Great Lakes Basin and is currently the Executive Director of the East Michigan Environmental Action Council. She is the Project Director of the Great Lakes Initiative Workshop and has recently been appointed to the Michigan Environmental Review Board, a group of seventeen members who are appointed and serve at the pleasure of the Governor.

Bonnie may be contacted at EMEAC, 21220 West 14 Mile Rd., Birmingham, Michigan, 48010; or telephone (313) 258-5188.

THINGS TO SEE

Love Canal: The Issues and Controversies is a two-part, 35-minute slide/audio cassette program available from the Media Library, 24 Capen Hall, State University of New York at Buffalo, Buffalo, New York, 14260. Purchase is \$110 (U.S.), rental for 1 to 3 days is \$20 per booking. The show clarifies and raises points of discussion about the problems and consequences for the residents, scientists and policy makers interacting in a highly publicized and politicized setting where policy decisions have to be made quickly despite the scarcity of scientific data.

The Greatest Lakes is a 28-minute documentary which describes how human activity in the past 200 years has changed and sometimes harmed the lakes, and what is being done to preserve these bountiful waters for the future. If you are interested in viewing this documentary, contact Bob Lovely, WHA Television, 821 University Ave., Madison, Wisconsin, 53706, or telephone (608) 263-2121.

The Great Lakes: Troubled Waters is a 58-minute program broadcast on David Suzuki's CBC Television's Program *The Nature of Things* in

January 1985. It is an investigation of what is known and what is being done about the health of this vast waterway. It is available on 3/4 inch tape or film. For information on purchasing contact Janis Weagant, CBC Enterprises, Box 500, Station A, Toronto, Ontario M5W 1E6 or telephone (416) 925-2365; on loan contact Bridie Callan, Community Affairs, Box 500, Station A, Toronto, Ontario, M5W 1E6, or telephone (416) 925-5596.

BOOKSHELF**Continued**

A new, comprehensive binational directory for the Great Lakes is now available from The Center for the Great Lakes. *The Great Lakes Directory of Natural Resource Agencies and Organizations, 1984-85*, is a ready reference source to over 720 of the region's public and private agencies and organizations involved in Great Lakes management. Conveniently formatted and cross-referenced, *The Great Lakes Directory* ensures quick access to listings which include the agency/organization's address, telephone number, contact person, purpose, membership, progress, authority, jurisdiction and publications. *The Directory* is a "one-of-a-kind" reference source that will be of use to government agencies, citizen groups, businesses and individuals in both the U.S. and Canada.

TO ORDER: *The Great Lakes Directory* is available for \$20.00 (U.S.) per copy or \$15.00 (U.S.) per copy for orders of 20 or more from: The Center for the Great Lakes, 435 N. Michigan Ave., Suite 1733, Chicago, IL. 60611. (Phone 312-645-0901).

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